1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

WOODWORK AND CARPENTRY

322 Woodworking is carried on as a trade throughout the Rif, Senhaja, and Ghomara, and in all of these places is considered a respectable profession, in no way to be confounded with the despised art of iron-forging. Carpenters are naturally most flourishing in the tribes where wood is most abundant, notably the tribes of the Senhaja Sghir, Beni Mesduy, Beni Amart, and Gsennaya. Half the tribesmen of Beni Mesduy are carpenters, and are called out to neighboring tribes, notably to Beni Amart, to ply their trade.

322 412 The tools used by carpenters are as follows:

tharyirinth thumkaran	axe	*er barimith* (Arabic)	awl
tharyirinth n thinjarout	adze	*er ghaserith* (Arabic)	gouge
er minsher (Arabic)	saw	*es ziar* (Arabic)	vise
er mithara (Arabic)	plane (see plate 15)	*fukkuth*	pincers
thrima (Spanish, from *lima*)	file	*user*	knife
imithi	chisel	*thimsharath*	scissors
thafathisth	hammer		

The Riffian and Senhajan carpenters use most commonly the axe, adze, and chisel. Planes, awls, vises, gouges, and files are of more recent introduction and hence are used less frequently. Saws are frequently employed, but one may truthfully say that Riffian carpentry is largely dependent upon adze technique. The adze is their tool *par excellence*, and they are extremely skillful in fashioning wooden objects with it.

313 Woodcutters, in felling trees upon the mountains, employ the axe exclusively. Once having felled the tree, they trim it, and, if it is too long to drag down the slope in its entirety, saw it into convenient lengths, unless they intend to use if for a roof-beam. The woodcutter chisels a square hole into the side of the log near the butt end, and with bits of wood wedges a long withe into it. If there are several men available for hauling the log, as many withes are wedged in as there are men. By lifting and dragging they move the log to the edge of the forest, and thence drag it down the slope, often finding it more difficult to keep it from rolling or falling end over end than to keep it moving. Sometimes the log is squared with the adze before being taken from the mountain.

When the woodcutter has succeeded in conveying the log to his house, he sets about preparing it for use. If the log is to be made into planks, he saws it lengthwise, making as many parallel cuts as he can, and carefully leaving the butt end solid — in other words, the planks into which the log has been sawed are still attached at one end. He takes the log, so cut, to market, and breaks off each plank as he sells it. (See plate 15.)

322 In making doors, beams, window frames, and shutters, the planks, whether originally sawed or not, are smoothed and flattened with the adze. So expert are the Riffian carpenters at wielding this tool that they can make a smooth surface on which no lines can be discerned. To leave a line is considered a sign of poor workmanship. With the adze they fashion wooden spoons, smooth, delicate, and graceful, and with the same tool a heavier implement, the plough.

MANUFACTURE OF TAR

314 Among the tribes in which the conifer *takka* is found, the manufacture of tar is carried on as a common occupation by woodcutters. These craftsmen fell the trees and cut up and chip sections of the trunks into small pieces. They then dig a hole in the ground, setting in

3: Hart E-5 (1953-1954)1954 MX3 Rif MX3

241 near Sūq al-Arba' of Taurīrt. Olive oil, extracted from a communally owned olive grinder and oil press, is the essential fat (1).

[312] The fields, orchards and vegetable gardens (the latter producing broad beans, chickpeas, potatoes, onions, tomatoes, peppers and carrots, to mention only a few) of the Aith Wuryāghil are usually terraced near the houses, along the slopes of the mountains. The vineyards, whither the families repair in September to pick grapes, are further up; and along the crests are the communal goat pastures [313] and the *ghāba* patches, where the women go to cut brushwood for their ovens and for the local mosque. Grape picking is the only important activity in September, which marks the end of the agricultural year; after this is done and after the barley has been reaped and [585] threshed and the silos piled up, people make merry and get married before the first rains begin again and the time to plow and sow has started up once more.

675 464 Herding and agricultural contracts of a verbal nature are made between the wealthier and the poorer men of the community, those who have little hiring themselves out to those who have more (2). Individuals who own more animals than they can pasture themselves hire herders who, while the beasts are in their charge, receive all the milk and butter and half the young ones born, and, when the animals are sold, half the profits; if the contract concerns sheep, they receive half the wool as well. Vegetable gardens and orchards are cared for by hired gardeners *(rabbā')* who receive one-fourth of the fruit and vegetable crop; as their job entails setting up terraces, they sometimes get one-third of the vegetables if the land is difficult to work. These same men, if they also perform all the operations necessary for cereal cultivation, are called *ikhammāsen* and receive one-fifth of the barley and wheat crop. The owner of the field supplies the seed, the animals (usually cows) and the plow as well in this type of contract, while the *akhammās* (sing. of *ikhammāsen*) provides only his muscles and a switch to keep the cattle moving while they are under the yoke. The *akhammās* contract is the most

(1) Coon, Carleton Stevens: **Caravan, The Story of the Middle East**, New York 1951, p. 313.

(2) Sánchez Pérez, Andrés: **Aprovechamientos comunales y formas de cooperación en las yemaas del Rif, Africa**, Madrid, Noviembre 1947, pp. 75-77.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

137 by cutting, browsing, or fire. This ability explains the presence of scrub thuya in deforested areas. But it grows slowly and is sensitive to disturbance in its early years. In the area delimited on the map, thuyas are widely scattered and for the most part badly mutilated. Large formations have been completely [313] destroyed. More than half of the houses in the eastern part of the Rif have [314] rafters of thuya, which is used, wherever it grows, as a source of charcoal. The [322] Barbary thuya has been used for centuries in making cabinets and other furniture, and was esteemed by the Romans for roofing temples.[a] Damaged trunks sometimes develop giant burls, which have been used since classical time as table [314] tops. A hard resin, sandarac, exudes from the trunks, and a modest quantity [439] of it is shipped to Britain, where it is used in the manufacture of varnish.[b]

[a] Pliny, *Natural History*, XVI. 231, XXXIII, 146.

[113] [b] W. Dallimore and A. Bruce Jackson, *A Handbook of Coniferae* (London: Edward Arnold, 1948), p. 610.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

seldom seen except in the European quarters of the larger towns. When a feast is in prospect, food is sometimes boiled in earthen pots set about an open fire. Wood fires also heat bake ovens. But most if not all Moroccan cooking is done over a charcoal brazier, consisting of an iron pot and tripod or simply an old gasoline tin. The brazier is used several times a day to boil water for tea; indeed, more fuel is consumed in this process than in cooking. Blacksmiths and other craftsmen rely upon charcoal, and lime kilns are found near every town.

Charcoal is a valuable fuel, for it has about twice the heating power of wood and burns without flame or smoke. In Morocco wood is converted to charcoal in shallow pits thinly covered with earth. But this process of partial combustion is extremely wasteful, since much of the volatile material in the wood is lost. The best charcoal is obtained from the denser hardwoods, especially the oaks. *Quercus Ilex* is the preferred wood, and this preference helps to explain the degraded aspect of most stands of this tree. The cork oak, the kermes oak, the oleaster, *Pistacia lentiscus*, *Rhus pentaphylla*, and *Arbutus Unedo* also yield excellent charcoal. Where the choice of wood is limited, many shrubs are utilized, and all available trees. No reliable estimate of the amount of charcoal annually consumed in northern Morocco has ever been published, but it must be enormous, for a charcoal brazier of some sort burns in every home.[94] During any day of the year, women and animals may be seen carrying loads of wood or charcoal to the cities and towns (pl. 8, *b*).

Mud brick or stone usually forms the walls of houses, but wood is always required for the rafters. In the deforested eastern sector, houses are built long and narrow so that branches and twigs can be used as a covering. When available, slender riparian or coniferous trees are used as rafters, but in most of northern Morocco such trees cannot be obtained.

Riparian forests are rare today apart from some canyons in the mountains, where the remaining stands of *Salix*, *Alnus*, *Populus*, *Vitex*, and *Crataegus* become thinner each year. *Nerium oleander*, the riparian "tree" of the hills and plains, is of little value in construction, and the oleaster and oaks are usually too massive or knarred.

The common type of house in Gal'aya and the Rif is well adapted to an environment poor in timber. In the Rifian dialect the word for "sloping roof" (*thazukha*) is the general word for all roofs, whereas a special word (*asthih*) is used for the now prevalent flat roofs.[95] The fact that the generalized word for roof is the same as that for a sloping one indicates greater antiquity for the latter variety. There is evidence that flat and narrow houses of the eastern type have recently replaced dwellings demanding more wood along the entire western frontier of the Rif.[96]

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most of this production has been consumed by factories in the Casablanca district and by the railroads of northern Africa. Fernand Joly *et al.*, *Géographie du Maroc* (Paris: Delagrave, 1949), pp. 135–136.

[94] The estimate of "four to five metric tons" published by the Spanish forestry service takes account only of commercial operations. E. González Vázquez, *El Marruecos forestal* (Madrid: Ediciones Técnicas, 1945), p. 72.

[95] C. S. Coon, "Tribes of the Rif," *Harvard African Studies*, 9 (1931), 69.

[96] Coon, *loc. cit.*, traces this change to the burning of houses during feuds in the pre-protectorate period, and to the fact that many families found it difficult to obtain lumber after the end of Abd al-Krim's rebellion. For evidence of changes in recent years, compare his map of house types (p. 71) with fig. 15 of the present study.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

313 The great wooden gates that used to guard the openings of every city wall
648 demonstrate the importance of the lumber trade. Only fragments of these gates
171 still exist, but it is certain that most of them were made of cedar. Logging operations were greatly expanded by the Spanish after the Rifian tribes had been pacified. It is not an exaggeration to say that the mineral deposits and cedar forests of northern Morocco were the only compensations for Spain's investment in colonial prestige. Reliable estimates of the amount of timber cut since the beginning of the protectorate cannot be found, possibly because the Spanish claimed to be conserving and restoring the forests in their zone. With the backing of military force, the Spanish were able to exercise some control over cutting by the native population, but their own work proceeded without interruption or apparent regulation. Spanish officials point out that the forests being exploited were private property and that the forestry service was concerned only with public domain.

In 1956 sawmills operated throughout the year at Tetuán and Targist, and during the summer months trucks heavily loaded with cedar logs could be seen on every mountain road. The fir forests on Jbil Tisuka and Jbil Leshab had not yet been heavily logged when Spanish "protection" came to an end, but the deciduous oaks on Jbil Buhashim had been cut in quantity for use as railroad ties. These operations may have been a brief chapter in the history of the Moroccan forest, but it is probable that the Spanish, with modern equipment, cut more trees in a decade than the local tribesmen could destroy in a century. The effects of Spanish logging are strikingly evident in the Sanhajan highlands, especially on Adrar Dahdoh, Adrar Tidighin, and Adrar Tizi Ifri.

313 This harsh judgment applies only to the exploitation of cedar and the decidu-
171 ous oaks. A modest amount of reforestation was undertaken. A plantation of
[185] *Eucalyptus* was established north of Larache; Aleppo pines were planted near Rincón, Alhucemas, Nador, and Melilla; and an effort was made to prevent premature stripping of the cork oak.[112]

Profiting from long experience in Algeria, the Service des Eaux et Forêts carried out an elaborate program in French Morocco. The system advocated and partly enforced was based upon periodic and progressive thinnings, which were intended to reconcile the interests of the tribesmen with good forestry practice. If effectively enforced, this method would have permitted the production of fuel without waiting for the normal age of exploitation, and would have improved pastoral conditions by facilitating the movement and supervision of livestock.[113]

314 Tannin is extracted from the roots and bark of all the Moroccan oaks, and
171 this operation frequently results in mutilation or death. The cork oak is espe-
311 cially vulnerable, for tannin is scraped from the delicate inner bark immediately after the corky tissue has been removed. Complete girdling destroys trees, and death may result if more than half of the circumference is damaged.[114] The tanners of Marrakech have been responsible for extensive deforestation in the

[113] [112] The program planned by the Spanish forestry service is described in González Vázquez, *op. cit.*, pp. 97–185, cited in note 34; and J. Ruiz de la Torre, *La vegetación natural del norte de Marruecos y la elección de especies para su repoblación forestal* (Larache: Centro de Investigaciones Forestales, 1956).

[113] [113] For a brief account of French management, see J. P. Challot, "L'homme et la forêt marocaine," *Rev. des Eaux et Forêts*, 84 (1946), 233–261.

[114] Boudy, *op. cit.*, II (fasc. 1), 47 ff., cited in note 5.